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IN TWO SECTIONS

Section I

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IN THIS ISSUE

Controlling Profits and Cash Through the Budget, by Goldsborough Robinson 637

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EDITORIAL DEPARTMENT NOTE

The article in this issue of the Bulletin was prepared as an address for a meeting of the Cincinnati Chapter of N. A. C. A. Mr. Robinson had been asked to talk on the "Special Problems of Budgeting." In his introductory remarks he explained how his search for special problems of budgeting had left him baffled and puzzled until he had finally come to the realization that there were no problems in budgeting; that budgetary control is the answer and that business operations themselves provide the problems which budgetary control helps to answer. It was from this viewpoint that the present article was written. It emphasizes most effectively the importance of budget standards if accounting is to fulfill its destined roll in the control of profits and cash balances.

Goldsborough Robinson is a graduate in electrical engineering of the Rose Polytechnic Institute. During the war he served in the Signal Reserve Corps. Since 1922 Mr. Robinson has engaged in public accounting practice and system designing, and in 1933 established his own accounting and industrial engineering practice. He was one of the organizers and has served as Vice President of our Louisville Chapter. He is a Kentucky C. P. A., a member of the American Institute of Accountants, and an Associate of the American Society of Mechanical Engineers.

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FEBRUARY 1, 1938

CONTROLLING PROFITS AND CASH THROUGH THE BUDGET

By Goldsborough Robinson, Accountant and Engineer, Louisville, Kentucky

THERE are only two major problems in operating a business. All other business problems are subordinate to them. These two main problems are, first, how shall we make a profit, and second, how shall we keep adequate cash in the bank? Some people may say that we do not have two problems, but only one; that if adequate profits can be earned, the cash in the bank will take care of itself. But you and I know that this is not true. We have all seen the heart rending spectacle of profitable organizations down on their knees saying "Uncle" to stony-faced banks, not because they did not know how to make a profit, but because dividends, plant expansion and oversized assets had drained the cash out when it was needed most.

Contribution of Accounting to Solution of These Two Problems

We accountants like to explain how accounting helps to solve these two major business problems, the earning of profit and the maintenance of cash in the bank. And I think that we have some justification for our claims. If we haven't, then there shouldn't be any National Association of Cost Accountants, there shouldn't be any cost accountants, and there shouldn't be any accounting either. For if accounting does not offer some real aid to management in the making of profit and in the maintenance of cash, it is no good and it should not exist. I know you will agree to all this. But, getting down to cases, just how do we expect accounting to provide an answer or even approach an answer to the two big problems?

We say that the answer is provided in monthly financial statements, specifically the profit and loss statement and the balance sheet. A normal man can spend his life in learning how to prepare them properly. We expect them to be a guide to management in making a profit and maintaining the cash. We expect banks to depend on them in granting lines of credit. We trust in these two statements and our trust is not misplaced. Your profit and loss statements and your balance sheets are worth-

while and are invaluable aids in profit making and financing, if you can show management how to read out of them the things that management ought to know. But unless the management that steers the ship knows how to read the things that it ought to read from its profit statement and balance sheet, then your work falls flat. It would have been just as well if you had never taken the trouble to make the statements in the first place.

I do not mean that the responsibility for proper reading of statements should rest on management. It should rest on you and me, our job being the adequate preparation of the statements in the first place. I will show you what I mean by adequate preparation in just a few minutes.

Profit Standards Essential

To begin with, your profit statement should first be projected into the future in budgetary style, forecasting what this business ought to do this year in the way of profit and how it is to do it. If something valuable is to be gained from the reading of profit statements, it is essential that you have something with which to compare those statements, some kind of standard of managerial performance set up in advance.

Management measures the worth of a shop worker by comparing his performance with predetermined standards. It makes a strenuous effort to arrive at those standards in the first place. It uses those standards to show that worker how he can become a better worker, and to uncover the defects in his performance so that these defects can be cured. I do not know of any way of setting up standards of managerial performance except by going to the management itself. I can not run around behind each executive with a stop watch to determine whether or not he spends his time to the best advantage and secures the greatest possible volume of profit for his company.

Who Should Set the Goal?

I can not myself set up a standard of economy in one department, such as a large accounting department, without spending a great deal of time on it. And even then I would not be sure that I was right. Instead, I know that much better results will be obtained if I go to each key man in the organization and ask him for his own candid statement of what he thinks he can do in

the future. There is no executive worthy of the name who does not think he can do better in the future than he has done in the past. If he does not think that, he is mentally dead and he should not hold his job.

Please note that I do not intend to go to the executive staff at the end of the year to ask them if they did a good job during the past year. Nobody is going to admit after the year is past that he has done the things that he ought not to have done, or has left undone the things that he ought to have done.

Putting it up to each member of the executive staff at the beginning of the year that a greater profit must be made (they know that without my telling them), I would ask each man what his contribution toward the making of that better profit is going to be. In nine cases out of ten, he will give me a considered opinion which is backed by his sound judgment and experience in his particular key position. I think that the holder of a major executive position qualifies as an expert when I want an opinion as to what is to be considered reasonably good future performance. I would take the statements of these responsible, experienced executives as to what they think they can do and what they ought to do in the coming year, and combine them into a set of forecasted profit statements for the year to come. Of course, if the net result does not show an adequate return on the investment I would go back to them and tell them so at once.

It is better to tell them at the beginning of the year that the profits are going to be inadequate and that something must be done, than to wait until the end of the year when it is too late. If these original standards as set up by the executive personnel for their own performance do not show that an adequate and reasonable profit is going to be made for next year, then they will need to cut and reduce their cost standards until an adequate profit is forecasted. I say reduce them now; do not wait until the year is over and wish that you had reduced them. There is one acid test of the correctness of such a set of managerial standards. And the test is this, does it show an adequate profit return on net worth?

The Budget as a Time Table of Profits

I want to go on and show how these standards or budgets can be

used to insure a proper reading of the monthly profit statement and justify your own claims that accounting is really an aid in profit making. If you will look at Chart 1 you will see a twelve-month picture looking ahead, which shows the results of the best executive opinion as to what this business ought to do. The profit for the year is charted on a cumulative basis, showing the budgeted profit for the year to date. Above it is shown something which is analogous and will illustrate its value, a schedule such as is used for keeping a railroad train on time.

The time table shows where the train should be at the end of short successive periods of time. Without it there would be small

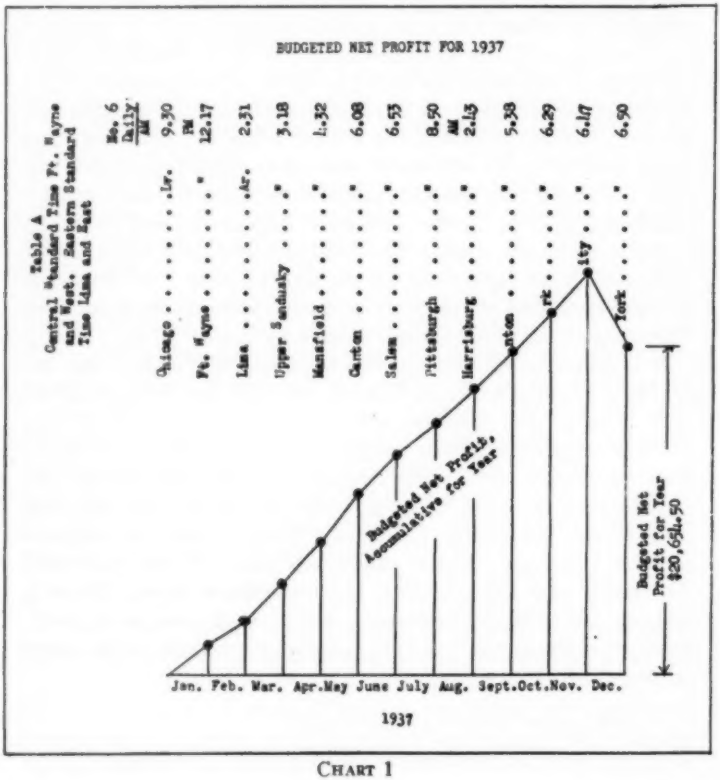
BUDGETED NET PROFIT FOR 1937
Table A
Central Standard Time Ft. Wayne and West. Eastern Standard Time Line and East
No. 6 Daily
AM
9.30
PM
12.17
2.31
3.18
4.32
6.08
6.53
8.50
AM
2.45
5.38
6.29
6.47
6.50
Chicago . . . . . .Lv.
Ft. Wayne . . . . . "
Lima . . . . . .Ar.
Upper Sandusky . . . . "
Mansfield . . . . . "
Canton . . . . . "
Salem . . . . . "
Pittsburgh . . . . . "
Harrisburg . . . . . "
ston . . . . . "
rk . . . . . "
ity . . . . . "
York . . . . . "
Budgeted Net Profit, Accumulative for Year
Budgeted Net Profit for Year $20,654.50
Jan. Feb. War. Apr. May June July Aug. Sept. Oct. Nov. Dec.
1937

CHART 1

hope of keeping that train on schedule and of getting to a specific place within a certain time. So it is with the cumulative budgeted profit statement. It shows how much profit must be earned for the year to date at the end of each month. It is a time table of profits. Of course, all modern accounting tells the man running the train where he is at the end of each month. But usually his accounting fails to tell him where he should be. The accountant may report actual profits for the first four months as $6,000. But nobody knows whether that is a good showing or a bad showing unless he has a schedule to check with.

If the profit for the year falls short of the $20,564.50, there will be much grief and tearing of hair after the year is done. Therefore to avoid future grief, check up against the budgeted profit schedule every month, so that you will stay "on time" and get somewhere.

Chart 2 shows the details of the profit budget for January, 1937. The budgets for the remaining eleven months are the same in form.

BUDGETED PROFIT AND LOSS STATEMENT
For January, 1937

Net Sales			$29,938.03
Less Cost of Goods Sold:			
Purchases	$ 9,918.76		
Opening Inventory	48,520.00		
Totals	$58,438.76		
Less Closing Inventory	38,925.93		
Material Cost of Goods Sold		$19,512.83	
Labor and Burden	$ 6,901.04		
Opening Inventory	6,480.00		
Total	$13,381.09		
Less Closing Inventory	7,272.16		
Labor and Burden Cost of Goods Sold		6,108.93	
Total Cost of Goods Sold			25,621.76
Gross Profit			$ 4,316.27
Less Total Expenses			2,502.97
Operating Profit			$ 1,813.30
Less Other Deductions			107.50
Net Profit			$ 1,705.80

CHART 2

Comparison with Actuals

Now we can get down to the profit statement showing the actual performance for the month of January and see what can be read out of it that will really give the answer to the first of the big problems, which is the making of an adequate profit.

If you will look at Chart 3 you will see that the company is off to a very bad start toward its budgeted profit. Of course something is gained by mere knowledge that the profit showing is bad, ending up with a figure for January of only $64.85. In an extreme case like this, it is very obvious. But we do not want to stop with an announcement of the bad news to the management. What is to be read out of the statement that will increase the profit and get us back on the schedule of profits in the future?

ACTUAL PROFIT AND LOSS STATEMENT
For January, 1937

Net Sales		$28,738.03
Less Cost of Goods Sold:		
Material Cost	$19,611.06	
Labor and Burden Cost	6,187.95	
Total Cost of Goods Sold		25,799.01
Gross Profit		$ 2,939.02
Less Total Expenses		2,766.67
Operating Profit		$ 172.35
Less Other Deductions		107.50
Net Profit		$ 64.85

CHART 3

I do not believe that we can read anything beneficial out of such a statement if we resort to the old-time method of comparing with last month or with this month last year. Last month was last month and this statement is for this month. There is no basis for comparison between them, or for a comparison with this month last year. Nor do I believe that we can read any more benefit out of this statement by embellishing it with a set of percentages to net sales, or by breaking down the customer's dollar into its component parts, or by adding reams of complicated supporting schedules that the management will not read.

Instead of all this, I am going to put a reading glass to this statement and see if I can find anything worthwhile. Through that reading glass, which you see on Chart 4, you see the fact of

paramount significance. On the original statement, you noted that the profit was low. But you can not see how bad it is until you look at it through the reading glass. The budget, the standard of profit that should have been, was $1,705.80. But actually, we have barely broken even, with an infinitesimal profit of $64.85, leaving a deficiency of $1,640.95 to be accounted for and investigated. That is the first fact that I should read out of this January statement.

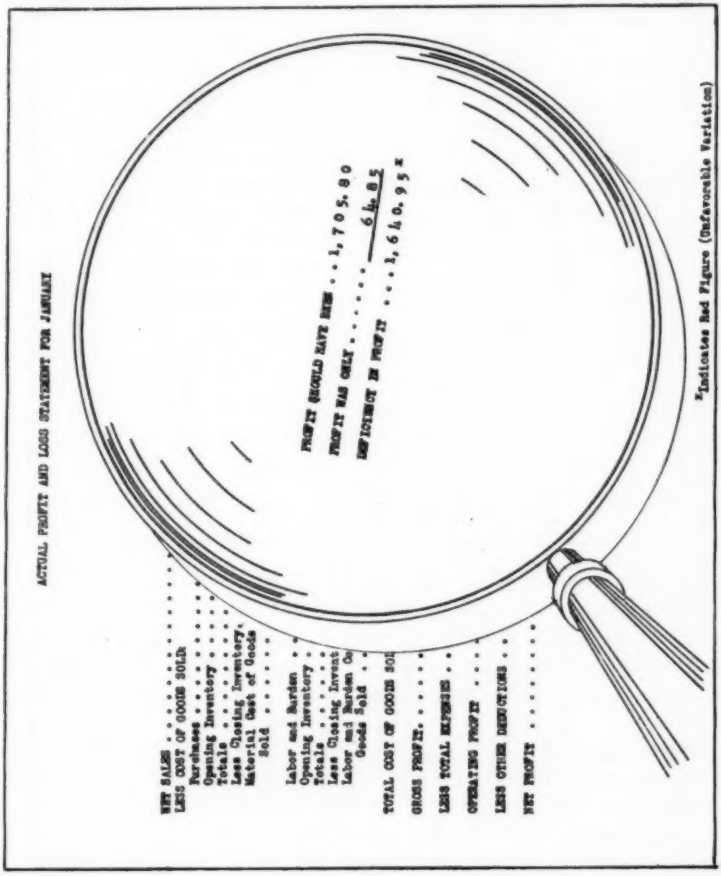
ACTUAL PROFIT AND LOSS STATEMENT FOR JANUARY
NET SALES . . . . . .
LESS COST OF GOODS SOLD
Purchases . . . . . .
Opening Inventory . . . . . .
Totals . . . . . .
Less Closing Inventory
Material Cost of Goods Sold . . . . . .
Labor and Burden . .
Opening Inventory .
Totals . . . . . .
Less Closing Invent
Labor and Burden On Goods Sold . .
TOTAL COST OF GOODS SOL
GROSS PROFIT. . . . . .
LESS TOTAL EXPENSE . .
OPERATING PROFIT . . . .
LESS OTHER DEDUCTIONS . .
NET PROFIT . . . . . .
PROFIT SHOULD HAVE BEEN . . 1,705.80
PROFIT WAS ONLY 64.85
DEFICIENCY IN PROFIT . . . 1,640.95*
*Indicates Bad Figure (Unfavorable Variation)

CHART 4

What is the trouble? You had better find out right now. Take another look through the glass at Chart 5, and investigate the causes of the disaster. Fix responsibilities for it, justly, accurately, and unmistakably.

Placing the Responsibility

You read that selling prices and sales volume were too low, that expenses and factory costs and raw material prices were too

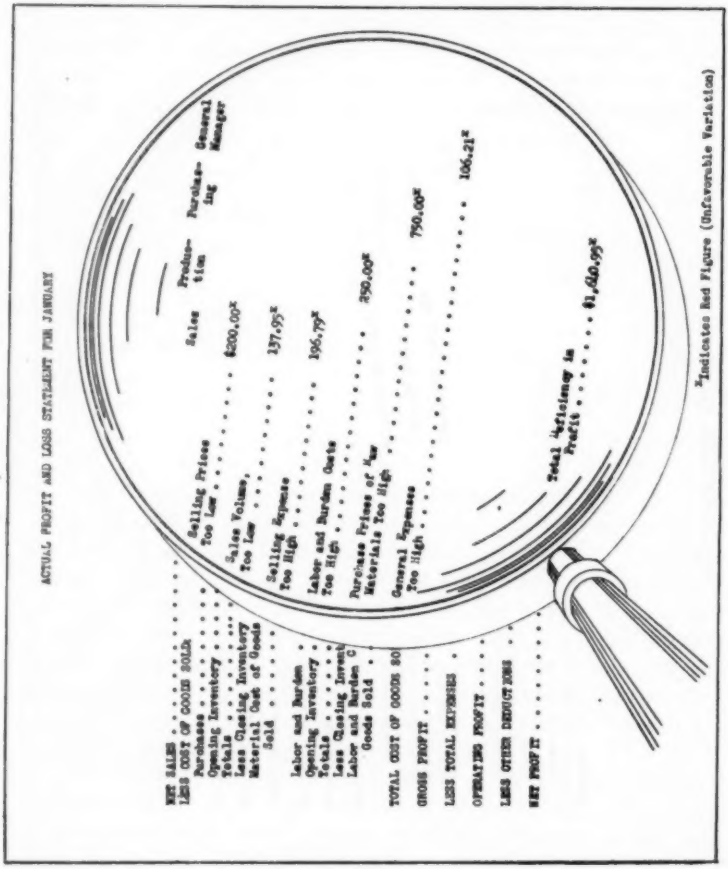
ACTUAL PROFIT AND LOSS STATEMENT FOR JANUARY
Sales
Produc-tion
Purchas-ing
General Manager
NET SALES
LESS COST OF GOODS SOLD
Purchases
Opening Inventory
Totals
Less Closing Inventory
Material Cost of Goods Sold
Labor and Burden
Opening Inventory
Totals
Less Closing Inventory
Labor and Burden C
Goods Sold
TOTAL COST OF GOODS SO
GROSS PROFIT
LESS TOTAL EXPENSES
OPERATING PROFIT
LESS OTHER DEDUCTIONS
NET PROFIT
Selling Prices Too Low 4200.00*
Sales Volume, Too Low 137.95*
Selling Expense Too High 196.79*
Labor and Burden Costs Too High 750.00*
Purchase Prices of Raw Materials Too High 750.00*
General Expenses Too High 106.21*
Total Variations in Profit $1,460.95*
*Indicates Red Figure (Unfavorable Variation)

CHART 5

high. All very obvious. Anybody knows that a decrease in profits is always caused by one or more of these factors. That is, anyone knows it qualitatively, but it takes a statement of this form to express the answer quantitatively, and quantitative answers are what are required. It is this quantitative expression of causes of loss that compels action, action to exterminate those little red foxes that are beginning to nibble at the vines.

If you look back at the first profit statement, you see that sales are $1,200 less than budgeted, or that sales volume was $1,200 too low. But I do not care anything about that, I want to know what effect this had on the profits, and I see through this reading glass that it knocks off the profit only by $137.95. The point is, that although sales volume fell $1,200, the resultant shrinkage in profit was not much, since we lost only the gross profit on $1,200 worth of sales, and probably had some savings in variable expenses besides. This conception of sales volume and its effects is a potent antitoxin against the volume phobia that sometimes becomes epidemic.

Therefore do not worry about the fall-down in sales volume. Instead, direct your ingenuity toward remedies for the deficient selling prices which robbed us of $200; for the selling expenses, $196.79; production costs, $250; and general expenses, $106.21, all of which were controllable. Raw material prices have slipped up on us by $750; surely some of it could have been avoided, since the budgeted prices were set up not so long ago by men who knew what they were doing.

Use of Variance Statements

We will show this statement to all of the men who are implicated and let them read from it that the poor January showing was due to the responsibility of the sales manager to the extent $534.94, production manager, $250, purchasing manager, $750, and general manager $106.21, accounting for a total of $1,640.95, which was the total fall-down in profit.

It is easy enough to follow this through with a detailed statement showing just how each manager happened to overrun his standards. He will find it difficult to put out of his mind that red flag of his own responsibility, and will turn loose all his thought and all his energies toward striking out that red flag

next month and putting up a green one instead. Nobody has any excuse for raising those red variation figures. You can not plead that the original budget was too ambitious. It calls for only $20,-564.50 profit for the year, which was agreed upon as no more than reasonable. That's *right.* And any performance that secures any less profit is bound to be *wrong,* and that's all there is to it.

This kind of reading of a profit statement puts teeth into the original budget. It subjects each month's profit to a real audit

TABLE OF BUDGETED LABOR AND BURDEN

A Units Produced	B Budgeted Variable Factor	C Budgeted Variable Costs =AxB	D Budgeted Monthly Fixed Costs	E Budgeted Monthly Total Costs =C+D
0	$.0108	$ .00	$1,071.42	$1,071.42
50,000	.0108	540.00	1,071.42	1,611.42
100,000	.0108	1,080.00	1,071.42	2,151.42
150,000	.0108	1,620.00	1,071.42	2,691.42
200,000	.0108	2,160.00	1,071.42	3,231.42
250,000	.0108	2,700.00	1,071.42	3,771.42
300,000	.0108	3,240.00	1,071.42	4,311.42
350,000	.0108	3,780.00	1,071.42	4,851.42
400,000	.0108	4,320.00	1,071.42	5,391.42
423,744	.0108	4576.44	1,071.42	5,647.86
450,000	.0108	4,860.00	1,071.42	5,931.42
500,000	.0108	5,400.00	1,071.42	6,471.42
539,784	.0108	5,829.67	1,071.42	6,901.09
550,000	.0108	5,940.00	1,071.42	7,011.42
600,000	.0108	6,480.00	1,071.42	7,551.42
650,000	.0108	7,020.00	1,071.42	8,091.42
700,000	.0108	7,560.00	1,071.42	8,631.42

If the January actual cost is $5,897.86

then the difference is excessive cost, $ 250.00

CHART 6

against the original budget, the best kind of audit that we know. You see, in providing a complete statement as to what is wrong in this business and how wrong it is, we must have that necessary follow-up mechanism without which budgeting would fall flat. Who would expect a man to give serious thought to the making of his standards unless he knows that the budget will inevitably be checked up against actual performance? If such a budget audit is to be made monthly, then really serious thought will be put into the making of the budget in the first place, and each executive implicated will be determined to attain his budget or to beat it if possible, so that his variations will show green instead of red at the end of the month.

Making the Budget Flexible

I do not see how anyone can want a simpler or more effective reading of a profit statement. And the best of it is that the preparation of the statement in this form is just as simple as the reading of it. The principle is the same for any item on the statement and the method is easily explained.

For factory labor and burden, for example, a budget table was made up like that shown on Chart 6. The table follows the principle of the flexible or sliding budget, and probably needs no explanation to you. But, note that the budgeted monthly total costs depend upon the volume of production. If the quantity of production is budgeted as 100,000 units in one month, I expect the total cost of labor and burden in that month to be $2,151.42. But, if the volume of production is to be twice as much in the next month, or 200,000 units, I do not expect the total labor and burden to be twice as much as it was before.

Much of the monthly burden cost is fixed no matter what the production; note the $1,071.42 budgeted monthly fixed cost which is repeated all the way down the table. Consequently, if production is 200,000 units instead of 100,000 as before, the table shows that the total cost of labor and burden should be $3,231.42 which is only 50 per cent more than it was when production was half as much. This budget table is based upon the principle that labor and burden consists of two parts, a variable part and a fixed part. It so happens in this business that we expect the vari-

able part of labor and burden to be $1.08 per unit of product, resulting in a total variable cost of $2,160 if the production is 200,000 units. The fixed part is always $1,071.42 per month, representing fixed costs like depreciation, insurance, taxes, part of the foreman's wages, indirect labor, etc.

Adding the fixed element, $1,071.42, to the variable element, $2,160 gives a total budgeted cost of labor and burden of $3,231.42. This is what the total labor and burden ought to be if the volume of production is 200,000 units. Please note that we can not budget any fixed sum of money for the total cost of labor and burden without first specifying how much production we propose to put out. A table like this one was used in budgeting the total cost of labor and burden to be expected in each month of the budget year. For January, the original budget called for a production of 539,784 units. However, it may develop that actual production for January was only 423,744. A really flexible budget will automatically adjust itself to the actual volume of production registered in January. We must find the permissible total labor and burden for a production of 423,744. Production of 423,744 would not ordinarily be shown in the table, but we can interline it and show the permissible labor and burden for January to be $5,647.86. If the actual labor and burden for January is $5,897.86, we know that actual expenditures have exceeded permissible expenditures by $250 which is what you read from the profit statement.

This is all that there is to the much talked of flexible budget. The principle is the same for all cost and expense accounts, and this same principle was used to read all of the facts about all of the costs on the January statement.

Control of the Cash Balance

You can devise all of the machinery that you want for the control of profits, but your controller's job is not done until you make your artillery double-barrelled, and shoot at the control of cash balances as well as the control of profits. It is just as practical and just as necessary to set up executive standards for the balance sheet as it is for the profit statement.

You have seen bank men go through the calculation of balance sheet ratios, such as the ratio of current assets to current lia-

bilities, and the turnover of accounts receivable and inventories after the year is gone. You can expect your statement to be subjected to this ratio analysis after the year is done, but it is far better to beat them to it and to decide what ratios and turnovers you ought to get and can get. Then set up a governing mechanism which will force you to get what you know you ought to get. Out of the executive huddles which must precede the making of every budget, I expect to get standards of turnover or collection time on accounts receivable, turnover of inventories, payment time on accounts payable, dividend forecasts, and estimates of how much or how little is to be spent during the year for additions to brick and mortar. All of this is to be included in the series of executive standards which every business deserves.

When all of these executive budgets of asset and liability turnovers are put together, you get a preview of one year's balance sheets, shown graphically as Chart 7. The forecasted assets on the left and forecasted liabilities on the right, are in graphic perspective, not in figures. The height of the blocks shows the relative budgeted amounts of cash, receivables, inventories, liabilities and net worth. In this case, it is probable that the cash will dwindle away to almost nothing in July or August, due to the seasonal demands of this business. But there will be an increase in cash towards the end of the year. Although this perspective drawing does not emphasize it, the cash at the end of the year will probably be more than that with which we started in January.

Thus we can see our way clear through all of the year. It looks as if we have enough cash to see us through. That knowledge in itself is worth a lot, because it brings peace of mind, hope and security to many an overdriven and overstrained boss.

Budget Must Be Enforced

Of course, it must be realized that a budget is only a budget, and is null and void unless enforced. But if all of the basic turnover data which entered Chart 7 are founded on sound experience, and if a monthly enforcement mechanism is provided, you can reasonably expect that the cash will hold up, and that financing, for this year at least, is solved in advance. Although the cash seems sufficient to tide us over, you will note that there is

no place in these forecasted balance sheets for hog-wild expansion of fixed assets, or for reckless build-up of inventories, despite the lure of speculative profits. The cash will not stand any abnormal and unnecessary strains. Is it not better to know that in

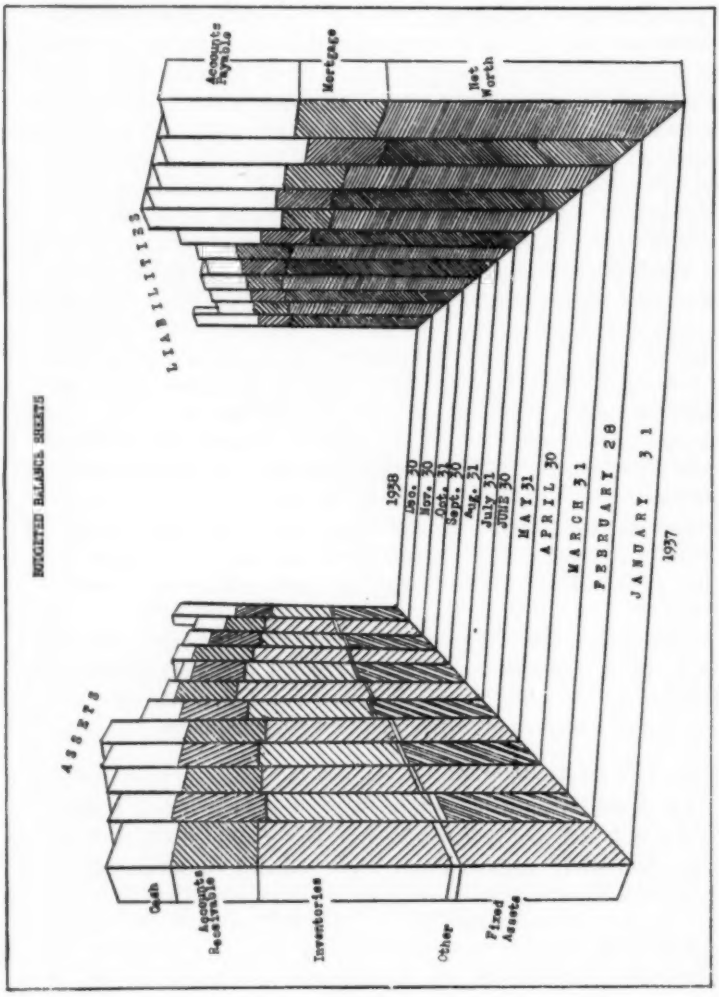

CHART 7

advance rather than to wake up some morning to find yourself "broke"?

The monthly fluctuations in the cash balance shown at the top of this chart show that there is enough cash to get by for the next year, and should be the real basis for bank credit. It may be argued, of course, that a banker can not extend credit against forecasts; I have heard all that before. But that is what they do every day on the strength of the balance sheet and past operating statement alone. The balance sheet of December 31 and the operations for the year do not mean a thing unless the bank credit officer deduces a rough forecast from them. If the financial and operating trends are right, the banker forecasts mentally that there will be enough cash available at the maturity of the loan to pay it back. This is forecasting all right, but forecasting of a very crude type. A budget of the monthly cash balances is a far better index to the safety of the loan.

Budgeted Balance Sheet Preferable to Cash Budget

You have all seen budget systems which provided monthly budgets of cash receipts and disbursements. But it is much more illuminating and actually takes no more work to make complete forecasted balance sheets month by month as shown in Chart 7. To make a mere budget of cash receipts and disbursements, you will find that it is necessary to forecast nearly every item on the complete balance sheet. Therefore, you might as well preserve your figures and present the forecasted balance sheet as part of the budget system. In my own experience, it is easier not to make a statement of receipts and disbursements at all, but to forecast every item on the balance sheet with the exception of cash, and then arrive at the cash by difference. The method is as accurate, more so I think, because it prevents overlooking many items which may be forgotten in the preparation of a statement of cash receipts and disbursements.

Chart 8 shows the details of the forecasted balance sheet for January 31 and the manner in which it was constructed. The forecasts for the other eleven months follow the same form and principle. The salient fact to be gained from Chart 8 is that it requires no more work than does a mere budget of cash receipts and disbursements.

BUDGETED BALANCE SHEET
January 31, 1937

Cash			$ 16,425.89
Accounts Receivable:			
Balance Jan. 1	$18,000.00		
Sales	29,938.03	$47,938.03	
Collections		26,553.71	21,384.32
Labor and Burden in Inventory:			
Balance Jan. 1	$ 6,480.00		
Production	6,901.09	$13,381.09	
Cost of Sales		6,108.93	7,272.16
Material in Inventory:			
Balance Jan. 1	$48,520.00		
Purchases	9,918.76	$58,438.76	
Cost of Sales		19,512.83	38,925.93
Total Current Assets			$ 84,008.30
Prepaid Expenses:			
Balance Jan. 1	$ 1,020.00		
Purchases	1,162.42	$ 2,182.42	
Usage		1,252.76	929.66
Other Assets			437.19
Fixed Assets:			
Balance Jan. 1	$41,127.59		
Purchases	333.33	$41,460.92	
Depreciation		191.84	41,269.08
Total Assets			$126,644.23
Accounts Payable, Material:			
Balance Jan. 1	$24,800.00		
Purchases	9,918.76	$34,718.76	
Payments		1,520.83	$ 33,197.93
Accounts payable, Sundry:			
Balance Jan. 1	$ 1,200.00		
Purchases	1,495.75	$ 2,695.75	
Payments		1,298.58	1,397.17
Accrued Liabilities:			
Balance Jan. 1	$ 2,237.91		
Accruals	350.77	$ 2,588.68	
Payments		565.45	2,023.23
Total Current Liabilities			$ 36,618.33
Mortgage			20,450.00
Net Worth:			
Balance Jan. 1	$67,870.10		
Net Profit	1,705.80		69,575.90
Total Liabilities and Net Worth			$126,644.23

CHART 8

Balance Sheet Analysis

Now for the monthly enforcement mechanisms, without which the budget is a meaningless toy and a prophet without honor. Along comes the actual balance sheet of January 31, the first month in the fiscal year. Chart 9 is an accurate balance sheet and fairly sets forth all assets and liabilities at January 31.

ACTUAL BALANCE SHEET, JANUARY 31

Assets:	
Cash	$ 6,742.90
Accounts Receivable	22,990.42
Labor and Burden in Inventory	6,630.52
Material in Inventory	48,055.60
Total Current Assets	$ 84,419.44
Prepaid Expenses	$ 1,180.58
Other Assets	485.00
Fixed Assets	40,011.49
Total Assets	$126,096.51
Liabilities and Net Worth:	
Accounts Payable, Material	$ 35,749.99
Accounts Payable, Sundry	1,049.33
Accrued Liabilities	1,814.07
Total Current Liabilities	$ 38,613.39
Mortgage	$ 20,450.00
Net Worth	67,033.12
Total Liabilities and Net Worth	$126,096.51

CHART 9

It takes a certain amount of effort to prepare it but it is worthwhile if we can read out of it the facts that we need for ironclad financial control. I will be the controller now and will read this thing to you just as balance sheets are usually read. Look at Chart 10 and you will see the orthodox ratios.

BALANCE SHEET RATIOS, JANUARY 31

Current Assets to Current Liabilities	2.19
Cash and Receivables to Current Assets	.35
Worth to Debt	1.13
Sales to Receivables	1.25
Sales to Inventories	.53

CHART 10

The current assets are 2.19 times the current liabilities and the cash and receivables are 35 per cent of the total current assets. The net worth is 1.13 times the total debt and the January sales are 1.25 times the accounts receivable and .53 times the inventories.

That is a lot of ratios to read from this January 31 balance sheet and a really good accountant might be able to think up some more. He might also give you comparative figures for the last ten years by months for the current ratio and the ratio of net worth to debt. He could compare it with last month and compute the increases and decreases, and make a statement of application of funds. And if you would let him, he could decorate this balance sheet with all of the ratio analyses and all of the "gingerbread" that have been devised in the history of accounting. But why?

What has he told you, what has this balance sheet told you, and what have all the ratios told you, that offers the slightest help toward maintaining that cash in the bank, toward fixing responsibility for unwise financial acts, toward keeping a company in funds to pay back its loans on the due date, toward having money ready for dividends? What has this reading of the balance sheet done toward answering the problem of keeping the cash in the bank?

You will have to answer that, I do not know. But if this is all that I know about reading a balance sheet; if this is all that I can offer management for the control of its finances, then I am ready to quit; in fact, should have quit long ago for the good of the profession. When I attack the sanctity of the balance sheet ratio analysis, and snort at all of the accepted balance sheet analyses, perhaps I stand traitor to my profession. "If this be treason, make the most of it."

Analysis by Means of Variances

If you will read this balance sheet through my reading glass on Chart 11, you will not see anything except that the cash, the most important item on it, is $9,682.99 less than it should have been. To me that is all that is important and it is the only thing that is really wrong. I do not care anything about the accounts re-

ceivable or the inventories or the fixed assets or the liabilities except insofar as they affect the cash.

On Chart 12, taking a second look through the reading glass, let us locate the trouble and see who is responsible. I read first that the turnover of accounts receivable was not what it should have been, and for this reason alone the cash was depleted by $2,463.26. What is the excuse for this? Furthermore, the inventories were not up to the budgeted turnover and that knocked off

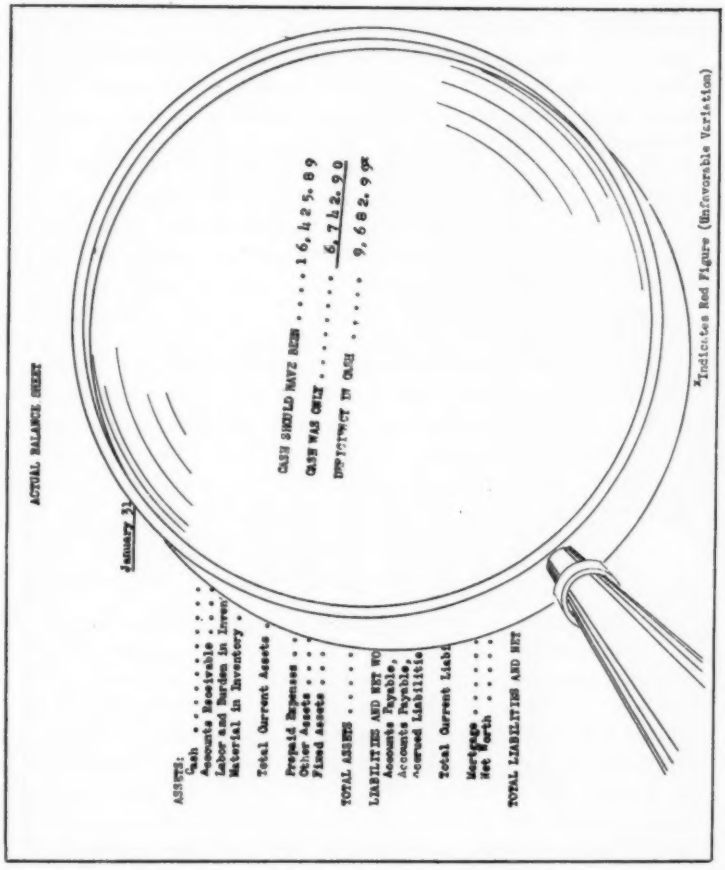
ACTUAL BALANCE SHEET
January 31
ASSETS:
Cash . . . . . .
Accounts Receivable . . . .
Labor and Burden in Inven
Material in Inventory .
Total Current Assets .
Prepaid Expenses . .
Other Assets . . . .
Fixed Assets . . . .
TOTAL ASSETS . . . . . .
LIABILITIES AND NET WO
Accounts Payable,
Accounts Payable,
Accrued Liabilitie
Total Current Liabi
Mortgage . . . . . .
Net Worth . . . . . .
TOTAL LIABILITIES AND NET
CASH SHOULD HAVE BEEN 16,425.89
CASH WAS ONLY 6,742.90
DEFICIENCY IN CASH 9,682.99*
*Indicates Red Figure (Unfavorable Variation)

CHART 11

the cash for $553.65 and $9,429.88 due to the derelictions of production and purchasing respectively. Could that be helped?

"Why should the raw material turnover slow down to the extent of impounding $9,429.88 of much needed cash? Who promised that budgeted turnover of raw material? You did."

"Yes, but the material inventory got out of balance. We got overloaded on some items, and short on others, and just could not keep the turnover up to the budget."

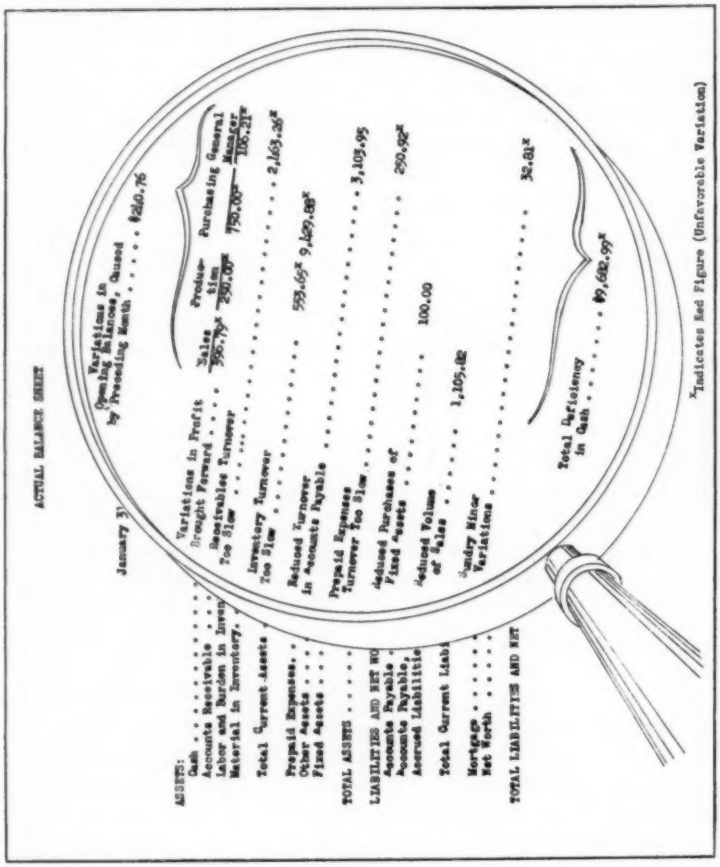

CHART 12

"Then raw materials had better get back into balance and stay there. Look at those forecasted balance sheets for 1937. We will have just enough cash to get by with. If you do not speed that inventory turnover back to budget, who will make good our overdraft at the bank? Santa Claus?"

That is what we need, teeth in the budget and snarls from the boss. Snarls when needed, praise when deserved, but all guided and prompted by the true reading of the balance sheet on Chart 12.

Believe it or not, the deficiency in sales volume is actually responsible for a favorable variation in the cash balance. This may seem reversed, but you all know that a sharp increase in sales volume will put a heavy strain on the cash, because so much more capital has to be tied up in inventories and receivables. Conversely, if the sales fall down, the accounts receivable and inventories should shrink and partially liquidate the business, causing the cash balance to rise.

If you add up the total variations shown, you account for the total deficiency in cash as compared to what the budget said it ought to be at the end of January. This is the way that you can break down the variations from budget in that all important cash balance, and show who is responsible for the fall-down. For through this glass, you see the red flags and the green flags that control cash. Is it not better to hoist the warning red flags early in the year than to work from the old-fashioned balance sheet alone, which has so many times failed to control? Better to watch for the red flags and change them to green, before someone hangs a big red flag on the doorstep and hollers, "What am I bid"?

Balance Sheet Budgeting Illustrated

Now for the machinery for reading a balance sheet in this way. The budgeting and the variation analysis for all assets and liabilities work under the same principle. Accounts receivable will do as an example.

Chart 13 is a chart of accumulated budgeted sales and collections for the budget-year-to-date. The upper line is plotted by starting with the balance in accounts receivable on January 1, $18,000, and adding to it the budgeted sales for January, then the budgeted sales for February, and so on, the last point plotted

at December 31 being the sum of the January 1 balance of receivables plus the total budgeted sales for the year. The lower line is the budget-year-to-date collections on accounts receivable. At the end of January we plotted the budgeted collections for January and to that we added the budgeted collections for February; the total was plotted at the end of February, and so on. You can see that the vertical distance between the two lines always represents the budgeted balance in accounts receivable.

I can not show you how I plotted the collection line on this chart, as the scale is too small, but Chart 14 shows the approach to it. No budget of collections can be made without consideration of the terms of sale. Suppose that standard terms of sale and

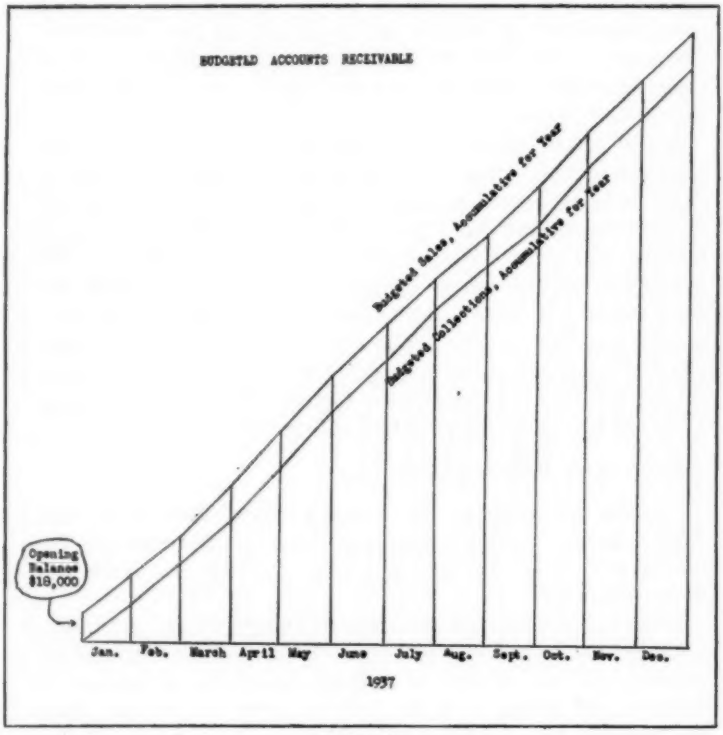

CHART 13

past records show that accounts receivable are usually collected twenty-two days after sale, that is, an invoice dated January 7 normally ought to be collected by January 29. We budget the collection time on accounts receivable as twenty-two days, but it is more convenient to work with decimals of a month, so we convert the twenty-two days to the decimal equivalent of a month, which is .714286 month.

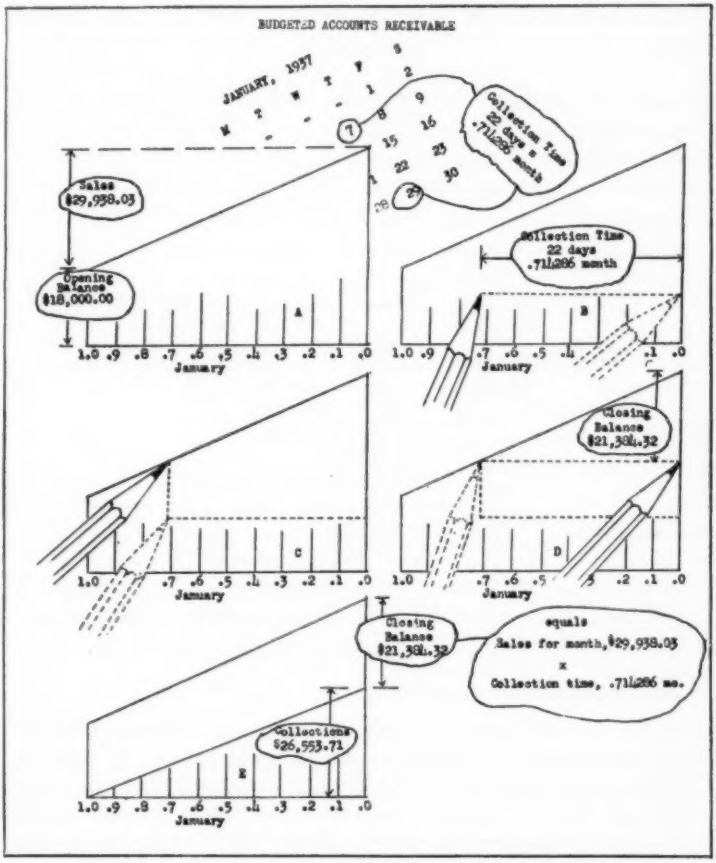

CHART 14

In the first chart (A), we start with the opening balance of January 1, $18,000, and add to it the budgeted sales for January, $29,938.03, making a total of $47,938.03 which is plotted at the end of January. Then at (B) trace with a pencil back from January 31 for a distance of twenty-two days, or .714286 month. Then at (C) trace vertically upward to the sales line. At (D)

TABLE OF BUDGETED ACCOUNTS RECEIVABLE

	Sales for Month	Multiplied by Budgeted Collection Time		Budgeted Accounts Receivable End of Month	
	$ .00	.714286 Mo.	=	$ .00	
	5,000.00	.714286 "	=	3,571.43	
	10,000.00	.714286 "	=	7,142.86	
	15,000.00	.714286 "	=	10,714.29	
	20,000.00	.714286 "	=	14,285.72	
	25,000.00	.714286 "	=	17,857.15	
Actual Sales	28,738.03	.714286 "	=	20,527.16	Actual Sales x Budgeted Collection Time
Budgeted Sales	29,938.03	.714286 "	=	21,384.32	Budgeted Accounts Receivable
	30,000.00	.714286 "	=	21,428.58	
	40,000.00	.714286 "	=	28,571.44	

The Difference is Variation in Accounts Receivable Balance Due to Volume of Sales $857.16

CHART 15

trace horizontally forward to the January 31 point. Your pencil will land on the amount of collections to be budgeted for January, which can be plotted by drawing in the collection line at (E).

Simple Calculation Required

The vertical spread between the sales line and the collection line at January 31 represents the budgeted balance in accounts receivable at January 31, which turns out to be $21,384.32. You will see that the closing balance of receivables on January 31 has been so budgeted as to give a balance representing twenty-two days worth of sales, or .714286 month.

While the chart method is good to explain the principle, actual budgetary practice does not demand the drawing of the charts at all because you will see at (F) that the resulting closing receivable balance could be obtained by multiplying the budgeted sales for the month, $29,938.03, by the budgeted collection time, .714286 month. This gives a budgeted receivables balance at January 31 of $21,384.32 just as could be obtained from the chart. I think that this is a sound way to budget accounts receivable balances and collections. And if it is sound for accounts receivable it ought to be sound for the budgeting of all other assets and the liabilities too.

You can get the budget audit for accounts receivable from a table like Chart 15. Compare the $21,384.32, the budgeted accounts receivable for the budgeted sales, with the $20,527.16, which is the budget for the actual January sales. The difference of $857.16 is due to sales volume alone.

TABLE OF COLLECTION TIMES

	Accounts Receivable End of Month	Divided by Actual Sales for Month	Collection Time	
	$ .00	$28,738.03	.000,000 Mo.	
	5,000.00	28,738.03	.173,985 "	
	10,000.00	28,738.03	.347,971 "	
	15,000.00	28,738.03	.521,956 "	
	20,000.00	28,738.03	.695,942 "	
Actual Sales x Budgeted Collection Time	20,527.16	28,738.03	.714,286 "	Budgeted Collection Time
Actual Accounts Receivable Balance	23,990.47	28,738.03	.800,000 "	Actual Collection Time
	25,000.00	28,738.03	.869,927 "	
	30,000.00	28,738.03	1.043,913 "	
	35,000.00	28,738.03	1.217,898 "	

The Difference is Variation in Accounts Receivable Balance Due to Collection Time $2,463.28X

XIndicates Red Figure (Unfavorable Variation)

CHART 16

On Chart 16, the $20,527.16 appears again. Compare it with the actual receivables of $22,990.42. The difference is due to actual collection time being greater than budgeted. So the $2,463.26 down below is due to deficient turnover alone. That is a simple principle, but it works for all the assets and liabilities.

Simplified Budgeting

I find that the whole procedure of budget audits can be made mechanical and boiled down to not more than one day's work each month for a calculating machine operator. Really, no chart construction is necessary for the making of the budget or the subsequent budget audit. Throughout this discourse I have used charts because they present more quickly and clearly what I have in mind. But after the principles are understood, all of the chart making can be discarded, and all of your budget making and budget audits can be quickly secured with a calculating machine alone.

It can not be very complicated because you do it all on one single printed form, like Chart 17. It is a visible form, and you have one for each ledger account; each form is good for a whole year's budgeting. Operating instructions are typed at the tops of the columns, and these instructions tell the calculating machine operator how to do it. You do not need to worry about mistakes in calculation, because double checks are thrown in wherever a miscalculation might be possible. This form provides the original budget, and makes the monthly operating statements and balance sheets. It makes the monthly budget audit, and even provides a place for computing short range revised budgets if needed.

I do not consider budgeting as just one phase of accounting. I consider that it is accounting and that without budgeting we can not have any real accounting that will answer the problems of management. These are the answers to the problems of management, which we as accountants can give to management. And we can give them the answers with amazingly little effort, if we provide ourselves with the right kind of tools to do the job. If the whole procedure can be standardized and mechanized and economized through the use of one single standard calculating form so that its operating cost is negligible, then I believe that the curtain has risen and revealed a vast theatre of new account-

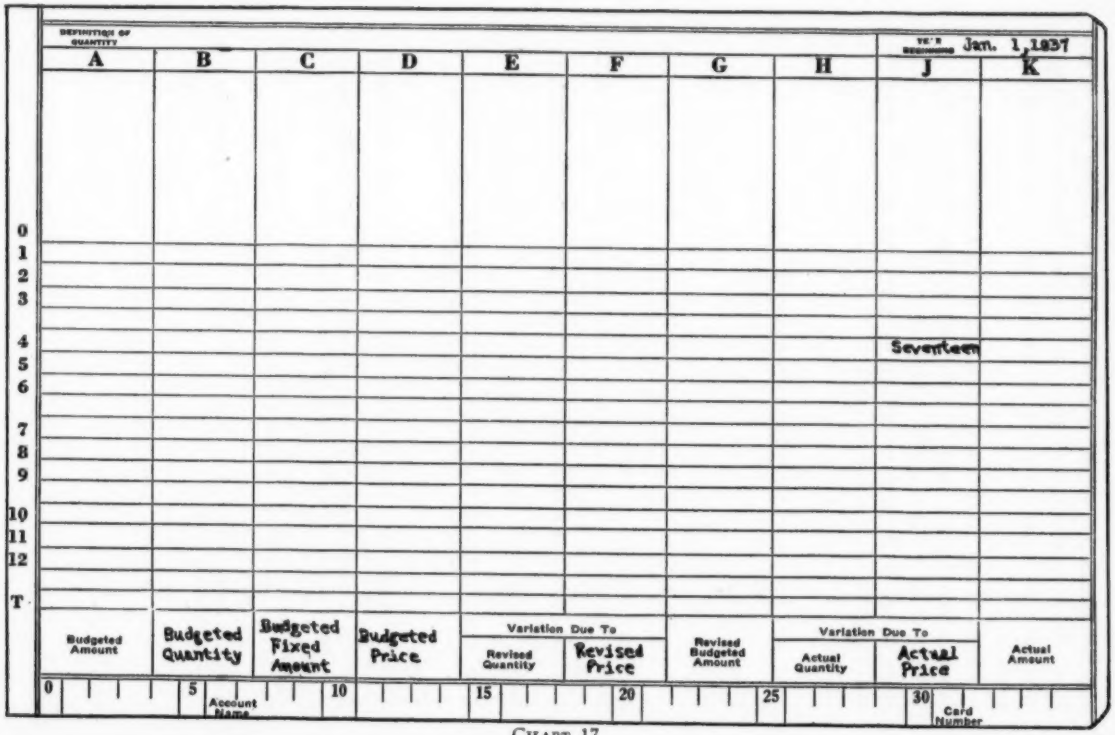
DEFINITION OF QUANTITY
YR.'S BEGINNING Jan. 1, 1937
A
B
C
D
E
F
G
H
J
K
Seventeen
0 1 2 3 4 5 6 7 8 9 10 11 12 T
Budgeted Amount
Budgeted Quantity
Budgeted Fixed Amount
Budgeted Price
Variation Due To
Revised Quantity
Revised Price
Revised Budgeted Amount
Variation Due To
Actual Quantity
Actual Price
Actual Amount
0
5
Account Name
10
15
20
25
30
Card Number

CHART 17

ing usefulness in which you accountants will play the parts that you were destined to play, that of clear-headed counsellors who have got what it takes to control the profit and maintain the cash.

Ahead of us are increased taxation, rising material prices, and labor advances, all inevitable and unavoidable perhaps, but all tending to drag down profits and dissipate the bank balance. The stage is set for budgetary control as never before. It's time for you to go on and play your parts.

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